

# LAMP2025

## The 9th International Congress on Laser Advanced Materials Processing

LPM2025 The 26th International Symposium on Laser Precision Microfabrication

HPL2025 The 9th International Symposium on High Power Laser Processing



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**Date** June 10-13, 2025

**Venue** Sinfonia Technology Hibiki Hall Ise <https://www.ise-kanbun.jp/>  
Ise-city, Mie-prefecture, Japan <https://www.iseshima-kanko.jp/en>

**Organizer** Japan Laser Processing Society (JLPS) <http://www.jlps.gr.jp/>

**Advance Registration Due Date: MAY 10, 2025, JST**

## Aim and Scope

The International Congress on Laser Advanced Materials Processing (LAMP) deals with the science and technology of advanced laser materials processing, covering precision microfabrication and high-power laser processing. LAMP2025 will be held from June 10-13, 2025, in Ise City, Mie Prefecture, Japan.

LAMP2025 consists of two international symposia: Laser Precision Microfabrication (LPM) and High Power Laser Processing (HPL). It covers hardware and software for fundamental research and industrial applications in both micro and macro processing.

LAMP2025 is planned as a four-day event featuring a Plenary Session, Oral and Poster Sessions, LPM Special Sessions focusing on topical issues, and an exhibition hosting prominent figures in this field worldwide. The aim of this congress is to provide a forum for discussing fundamental aspects of laser-matter interaction, the state-of-the-art in laser materials processing, and next-generation topics with fundamental scientists, end-users, and laser manufacturers.

We anticipate that LAMP2025 will play an important role not only in advancing the understanding of fundamental laser materials processing but also in forecasting future technologies and trends in the laser market.

## Committees

- General Chair : **Yasuhiro Okamoto**, Hiroshima University, Japan
- Co-Chairs : **Mitsuhiro Terakawa**, Keio University, Japan (LPM2025 Program Chair)  
**Masahiro Tsukamoto**, JWRI, Osaka University, Japan (HPL2025 Program Chair)  
**Yongfeng Lu**, University of Nebraska-Lincoln, USA  
**Michael Schmidt**, Friedrich-Alexander Universität Erlangen-Nürnberg, Germany
- Steering Committee Chair : **Yoichiroh Hosokawa**, Nara Institute of Science and Technology, Japan
- Treasurer Leader : **Yasutaka Hanada**, Hirosaki University, Japan
- Honorary Chairs : **Isamu Miyamoto**, Emeritus Prof., Osaka University, Japan  
**Koji Sugioka**, RIKEN, Japan  
**Hiroyuki Niino**, AIST, Japan;  
**Seiji Katayama**, Emeritus Prof., Osaka University, Japan



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Congress website

<http://www.jlps.gr.jp/lamp/lamp2025/>

# LAMP2025 TOPICS

## LPM2025 TOPICS

1. Fundamental aspects (Dynamics, modeling, simulation, etc.)
2. Laser and photochemistry
3. Ultra-short pulse laser processing
4. Burst ablation
5. Advanced laser processing (Fiber laser, disc laser, FEL, etc.)
6. Glass/Ceramic processing
7. VUV laser and X-ray processing
8. Nanotechnology
9. Nano-ripple formation
10. Nano- and micro-particles (including laser synthesis and processing in liquids)
11. Micro-machining
12. Micro-drilling and micro-cutting
13. Micro-welding and micro-bonding
14. Micro-forming
15. Micro-patterning and micro-structuring
16. Surface processing (Texturing, cleaning, annealing, modification, etc.)
17. 3-D micro- and nano-fabrication
18. Film deposition and synthesis of advanced materials (PLD, CVD, etc.)
19. Laser-based direct-write techniques
20. Laser-induced forward transfer (LIFT) techniques
21. Lithography (including EUV source and application)
22. Laser devices
23. Beam shaping
24. Optics and systems for laser microprocessing
25. Process monitoring and control
26. Packaging and mounting process
27. Manufacture of micro devices and systems
28. Medical and biological applications
29. Industrial applications
30. Others
31. Special Session 1 : Laser materials processing in liquids
32. Special Session 2: Ultrashort pulse laser processing of transparent materials

## HPL2025 TOPICS

1. Fundamentals of laser-materials interactions
2. Laser-induced plasma/plume
3. Gas laser
4. Solid-state laser (YAG, Fiber, Disk, etc.)
5. Diode laser
6. Green or blue laser
7. Optics
8. Beam delivery system
9. Monitoring and control (including OCT)
10. Metallurgical and mechanical aspects
11. Modeling and simulation
12. Cleaning
13. Surface modification (Hardening, quenching, alloying, etc.)
14. Cladding and rapid prototyping
15. Additive manufacturing (3D Printer)
16. Welding
17. Welding of thick plate
18. Welding of high strength steel
19. Welding of light metals and alloys
20. Joining of plastics, glasses or ceramics
21. Joining of dissimilar materials (plastic to metal)
22. Joining of battery or fuel cell
23. Remote welding
24. Hybrid welding
25. Brazing and soldering
26. Drilling (High speed and high quality)
27. Cutting (of CFRP, etc.)
28. Thick plate cutting and dismantling
29. Industrial applications
30. Innovative applications (Sandwich panel, etc.)
31. Present status and future prospects
32. Others

### LAMP2025 Plenary Session

Prof. Dr.-Ing. **Fernando Adrián Lasagni**, CTO, Novaindef, Spain

"From "earth" to "space": implementation of laser based additive manufacturing for the development of high value applications"

Dr. **Henry Helvajian**, The Aerospace Corporation, USA

"Photonics Technologies for the development of a sustainable eco-system in outer space"

Prof. **Keisuke Shigemori**, Institute of Laser Engineering, Osaka University, Japan

"Laser Fusion Energy - Current Status and Perspectives"

### LPM2025 Special Session 1 "Laser materials processing in liquids"

Prof. **Tatiana Itina**, Centre national de la recherche scientifique (CNRS), France

"Modeling Laser-Assisted Nanoparticle Synthesis in Liquids: Advances for Catalysis and Energy Applications"

Prof. **Koichi Sasaki**, Division of Applied Quantum Science and Engineering, Hokkaido University, Japan

"Some aspects of plasma-liquid interaction: Common physics with liquid-phase laser ablation"

Dr. **Katharine Moore Tibbetts**, Virginia Commonwealth University, USA

"How chemical reactions impact the properties of nanoparticles produced by laser synthesis in liquid"

Dr. **Hiroyuki Wada**, Tokyo Institute of Technology, Japan

"Preparation of functional nanoparticles by laser processing in liquid and their optical applications"

### LPM2025 Special Session 2 "Ultrashort pulse laser processing of transparent materials"

Prof. **Jean-Philippe Colombier**, Université de Lyon, France; Université Jean Monnet, France

"Atomistic insights into ultrafast laser-driven dynamics for silica nanostructuring"

Dr. **Juozas Dudutis**, Center for Physical Sciences and Technology (FTMC), Lithuania

"Non-diffractive laser beams in transparent material processing"

### LPM2025 Regular Sessions

Prof. Dr. **Camilo Florian Baron**, Universität Kassel, Germany

"Temporally shaped femtosecond pulses for high resolution materials processing"

Prof. **Ravi Bhardwaj**, Department of Physics, University of Ottawa, Canada

"Ultrafast laser processing using vector beams"

Dr. **Christos Boutopoulos**, Department of Ophthalmology, Faculty of Medicine, University of Montreal, Canada

"Towards in-situ laser-assisted bioprinting"

Dr. **Xiaohan Du**, City University of Hong Kong, China

"Adaptive laser beam control with liquid acoustic elements in material processing"

Prof. **Martí Duocastella**, Department of Applied Physics, Universitat de Barcelona, Spain

"Faster and deeper laser materials processing with ultrasound"

Dr. **Shane Eaton**, Department of Physics, Politecnico di Milano, Italy

"Femtosecond laser fabrication of quantum technologies in diamond"

Dr. **Christian Hagenlocher**, Institut für Strahlwerkzeuge (IFSW) University of Stuttgart, Germany

"Dynamic Beam Shaping in Laser Welding – Limits and Potentials"

Prof. **Yuichi Kozawa**, Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan

"Laser nanoprocessing utilizing a tightly focused radially polarized beam"

Dr. **Jie Qiao**, Chester F. Carlson Center for Imaging Science, Rochester Institute of Technology, USA

"High-precision polishing of glass using Gigahertz femtosecond lasers"

### HPL2025 Regular Sessions

Prof. Dr. **Frank Brückner**, Head of Technology Unit „Additive Manufacturing and Surface Technology“, Fraunhofer Institute for Material and Beam Technology IWS, Germany

Dipl.-Ing. **Tobias Florian**, Vienna University of Technology, Austria

"Simulating the Unseen: Unveiling Defect Mechanisms in Laser Beam Welding"

Dr. **Andreas Heider**, Robert Bosch GmbH, Germany

"Challenges and Limits at Laser Welding of Copper for E-Mobility Applications - A Fundamental Understanding of Pore Formation"

Dr. **Seung Hwan Lee**, Associate Professor, School of Mechanical Engineering, Hanyang University, Republic of Korea

"Ni superalloy depositions by induction-heating-assisted DED"

Dr. **Klaus Löffler**, Managing Director, Precitec GmbH & Co. KG, Germany

"On the way to Battery Production with Zero Defects with the use of AI and Photonics"

Mr. **Iurii Markushov**, Corporate Vice President, Global Applications, IPG Photonics

"Keyhole stabilisation effect and spatter-free welding with Adjustable Mode Beam fiber lasers"

Dr. **Yuji Sato**, Joining and Welding Research Institute (JWRI), Osaka University, Japan

"Additive manufacturing of pure copper with blue diode laser"

Prof. Dr.-Ing. **Klaus Schrickler**, Brandenburg University of Technology Cottbus - Senftenberg, Chair of Joining and Welding Technology, Cottbus, Germany

"X-Ray imaging of keyhole behaviour during laser beam welding"

### Joint Session

Prof. **Hai Xiao**, Department of Electrical and Computer Engineering, Clemson University, SC, USA

"Laser processing of ceramic materials and composites for next-generation hydrogen energy systems"

Dr. **Hideaki Shirai**, DENSO CORPORATION, Japan

"Application of laser processing in the visible range for e-mobility parts"

Prof. Dr. Stephan **Barcikowski**, Center for Nanointegration Duisburg-Essen (CENIDE), University of Duisburg-Essen, Germany

"Energy conversion and storage by catalysts made by pulsed lasers"

## LPM Special Sessions

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### LPM Special Session 1: Laser materials processing in liquids

#### Session organizers:

Dr. Carlos Doñate Buendia, University Jaume I (UJI), Spain

Dr. Takahiro Nakamura, illuminus Inc., Japan

Prof. Hiroshi Yoshikawa, Osaka University, Japan

Prof. habil. Dr.-Ing. Stephan Barcikowski, University Duisburg-Essen, Germany

#### Short Description:

Laser materials processing in liquids represents the basis of disruptive manufacturing technologies such as laser ablation and fragmentation in liquids for nanomaterials fabrication, laser crystallization, linear and nonlinear photopolymerization, or laser surface texturing in liquid media. The versatility and unique physicochemical conditions achievable during laser processing in liquids allows multi-scale manufacturing of functional nano/microstructures and macro metric devices employed in catalysis, energy or bio-applications. This special session englobes the fundamentals of laser processing in liquid media, the generation of nanoparticles and microstructures, and their applications.

### LPM Special Session 2: Ultrashort pulse laser processing of transparent materials

#### Session organizers:

Dr. Gediminas Račiukaitis, FTMC, Lithuania

Dr. Razvan Stoian, St Etienne University, France

Dr. Paulius Gecys, FTMC, Lithuania

#### Short Description:

The session is intended to discuss fundamentals of ultra-short pulse (USP) laser interaction with transparent materials, as well as processes on glass cutting, milling, internal modifications to practical application like through glass vias, burst-mode drilling, shaped beams for dedicated processes, etc..

#### CONTACT



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